

### ABSTRACT OF THE DISCLOSURE

The present invention identifies natural and man-made inhibitors of the 11 $\beta$ -hydroxysteroid dehydrogenase enzymes that modulate glucocorticoid bioactivity *in vivo* by catalyzing either the formation of cortisol by reduction of cortisone, or the removal of cortisol by oxidation to cortisone. This mode of  
5 modulating glucocorticoid bioactivity *in vivo* is significant for inflammatory and allergic conditions, cancer, and several metabolic syndromes.